

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1 through 30 (Canceled).

Claims 31 through 43 (Canceled).

44. (Currently Amended) A process for removing a substance from at least a portion of the surface of a reaction chamber, the process comprising:

providing a reaction chamber wherein at least a portion of the surface is at least partially coated with the substance and wherein the substance has a dielectric constant of 4.1 or greater and is at least one member of the group consisting of a transition metal oxide, a transition metal silicate, a Group 13 metal oxide, a Group 13 metal silicate, a nitrogen containing Group 13 metal oxide, a nitrogen containing Group 13 metal silicate, a nitrogen containing transition metal oxide, a nitrogen containing transition metal silicate, or a laminate comprising at least one layer of the group consisting of a transition metal oxide, a transition metal silicate, a Group 13 metal oxide, a Group 13 metal silicate, a nitrogen containing Group 13 metal oxide, a nitrogen containing Group 13 metal silicate, a nitrogen containing transition metal oxide, a nitrogen containing transition metal silicate;

introducing a reactive agent into the reaction chamber wherein the reactive agent comprises at least one fluorine containing compound and at least one ~~halogen-containing~~ other compound selected from the group consisting of a chlorine-containing compound, a bromine-containing compound, ~~or~~ and an iodine-containing compound, wherein the amount of fluorine-containing compound is less than 50% by volume of an amount of the ~~halogen-containing~~ at least one other compound;

exposing the reactive agent to one or more energy sources sufficient to react the substance with the reactive agent and form a volatile product; and  
removing the volatile product from the reaction chamber.

45. (Previously Presented) The process of claim 44 wherein the reactive agent further comprises at least one member selected from the group consisting of a boron-containing compound, a carbon-containing compound, a hydrogen-containing compound, a nitrogen-containing compound, a chelating compound, a chlorosilane compound, a hydrochlorosilane compound, and an organochlorosilane compound.
46. (Previously Presented) The process of claim 44 wherein the reactive agent is exposed to one or more energy sources and the exposing step is conducted prior to the introducing step.
47. (Previously Presented) The process of claim 44 wherein the reactive agent is exposed to one or more energy sources and the exposing step is conducted during at least a portion of the introducing step.
48. (Previously Presented) The process of claim 44 wherein a temperature of the exposing step is at least 150 °C.
49. (Previously Presented) The process of claim 44 wherein a pressure of the exposing step is at least 10 mTorr.

Claims 50-51 (Canceled).

52. (New) The process of claim 44 wherein the reactor is an atomic layer deposition reactor.
53. (New) The process of claim 44 wherein the substance is at least one member selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{HfO}_2$ ,  $\text{ZrO}_2$ ,  $\text{HfSi}_x\text{O}_y$ ,  $\text{ZrSi}_x\text{O}_y$ , where x

is greater than 0 and y is  $2x + 2$ ,  $\text{Al}_2\text{Si}_w\text{O}_z$ , where w is greater than 0 and z is  $2w + 3$ , or any of the aforementioned compounds containing nitrogen.

54. (New) The process of claim 44 wherein the substance is a laminate comprising layers of at least one material selected from the group consisting of a transition metal oxide, a transition metal silicate, a Group 13 metal oxide, a Group 13 metal silicate, a nitrogen containing transition metal oxide, a nitrogen containing transition metal silicate, a nitrogen containing Group 13 metal oxide, or a nitrogen containing Group 13 metal silicate.
55. (New) The process of claim 44 wherein the at least one other compound is a chlorine-containing compound selected from the group consisting of  $\text{BCl}_3$ ,  $\text{COCl}_2$ ,  $\text{HCl}$ ,  $\text{ClF}_3$ ,  $\text{NF}_z\text{Cl}_{3-z}$ , where z is an integer from 0 to 2, and mixtures thereof.
56. (New) The process of claim 55 wherein the chlorine-containing compound is  $\text{BCl}_3$ .
57. (New) The process of claim 44 wherein the at least one other compound is a chlorine-containing compound having the formula  $\text{C}_x\text{H}_y\text{Cl}_z$ , wherein x is a number ranging from 1 to 6, y is a number ranging from 0 to 13, and z is a number ranging 1 from 14.
58. (New) The process of claim 44 wherein the reactive agent is conveyed to the substance from a gas cylinder, a safe delivery system, or a vacuum delivery system.
59. (New) The process of claim 44 wherein the reactive agent is formed in situ by a point-of-use generator.

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60. (New) The process of claim 44 wherein the substance is contacted with the reactive agent diluted with an inert gas diluent.